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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,171	07/30/2001	Lee Daniel Feinberg	033337/0127	9640

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INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER

FERRIS, DERRICK W

ART UNIT PAPER NUMBER

2663

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/917,171

Applicant(s)

FEINBERG ET AL.

Examiner

Derrick W. Ferris

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8, 10-33, 35-45 and 48-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-8, 10-33, 43-45 and 48-65 is/are allowed.
- 6) ☒ Claim(s) 35-39 is/are rejected.
- 7) ☒ Claim(s) 40-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. This Office action is in response to applicant's paper filed 5/9/2005. **Claims 2-8, 10-33, 35-45, 48-65** as amended are still in consideration for this application. Applicant has amended claims 2, 4, 6-8, 10-11, 13, 15-17, 20, 36-40, 48-49, 55, and 57. Applicant has canceled claims 1, 9, 34 and 46-47. Applicant has added claims 62-65.

2. Examiner **withdraws** the obviousness rejection to *Swanson* in view of *Taylor, Swanson* in view of *Taylor* in further view of *Afferton, Swanson* in view of *Taylor* in further view of *Tektronix, Swanson* in view of *Taylor* in further view of *Dick, Swanson* in view of *Taylor* in further view of *Gadiraju*, and *Milton* in view of *Taylor*. The following comments fully address applicant's arguments with respect to the rejection. In particular, applicant amended the claims to include allowable subject matter thus rendering the rejections moot. However, upon further review the examiner notes a new rejection to claim 35 based on newly found art. As newly found art is applied, the examiner notes that the current Office action is made non-final. Note that claim 40 is objected to but would be allowable.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. **Claims 35-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,532,320 B1 to *Kikuchi et al.* ("*Kikuchi*") in view of U.S. Patent No. 6,433,904 B1 to *Swanson et al.* ("*Swanson*").

As such to **claim 35**, *Kikuchi* discloses in figure 13 an optical switch/cross connect as optical switch 172. As such, a first optical communication system could be the either the sender, another repeater, or transponder 110. A data stream at a first rate is 142-1. A first processing branch is taught e.g., as the branch with link 143-1. The processing branch is further divided into a plurality of slower data streams as the streams exiting the transponder 100-1. The data streams are further combined into a composite stream by multiplexer 145-1 as composite stream 162-1. The composite stream 162-1 is further transmitted over the optical communication system to a receiving end. In particular, the inter-site rate for stream 162-1 is different than the intra-site rate of 142-1 (i.e., the first stream of first data rate).

Kikuchi may be silent or deficient to the further limitation of encoding each of said plurality of slower data streams. In particular, the data streams processed by the transponder 100-1 are further shown in detail e.g., in figure 2, however, it is not clear from figure 2 that the transmitters 104-1 to 104-n are encoders.

Swanson teaches the further recited limitation above at e.g., figures 4 and 5.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Kikuchi* by clarifying that the transmitters FEC encode the data streams after demultiplexing.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to increase the noise immunity in the channel substantially and time align the data nits before they are re-multiplexed. In particular, *Swanson* cures the above-cited deficiency by providing a motivation found at e.g., column 5 line 7-10 and column 9, lines 5-10. Second, there would be a reasonable expectation of success since both reference teach optical communications. Thus the references either in singular or in combination teach the above claim limitation(s).

As to **claim 36**, see figure 5 of *Swanson* with respect to synchronization.

As to **claim 37**, one of the principle reasons for using FEC is for transcontinental optical submarine system thus teaching a first optical system as a terrestrial optical system and a second optical system as a submarine optical system.

As to **claim 38-39**, see column 10, lines 1-24 of *Kikuchi* with respect to supporting speeds of 2.5 Gbps, 10 Gbps, and 40 Gbps.

5. **Claims 2-8, 10-33, 43-45, 48-65** are allowed.
6. **Claims 40-42** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123.

The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris
Examiner
Art Unit 2663


DWF


7/20/05